

# Wet coating

The basis for an attractive product

**TOWNSEND**  
FURTHER PROCESSING

**marel**





# The basis for an excellent coating



A hundred consumers, a hundred desires. The range of snacks and meal components has expanded enormously during the past few years. Differences in culture, preparation methods and the time at which meals are consumed have all led to a large number of different coatings.

Coatings determine to a great extent how products are presented and how they taste. First and foremost, a product must look attractive. This is important during the purchasing process, preparation and when the product is finally consumed. In addition, coatings add value as they improve the taste and texture and lead to an increased weight yield.

The number of possible coatings is many. Townsend Further Processing supplies an appropriate machine or combination of machines for flouring, battering and coating with breadcrumbs for practically all purposes. Wetting the products often forms the basis for an excellent coating. Whether a milkwash or tempura, natural or formed products, Townsend Further Processing has just the right mixer and applicator for you!





# BatterMixer

Correct mixing starts with the BatterMixer. After preparing a liquid mixture out of powder and water, the BatterMixer feeds this to a batter or tempura machine. The mixer is supplied for normally pumpable mixtures to be used with the BatterApplicator or TempuraApplicator.

## How it works

The system works intermittently and thus ensures that the relevant applicator is filled in charges.

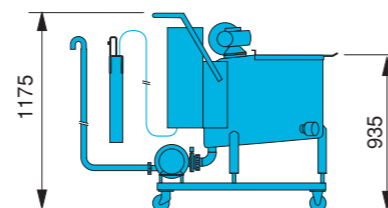
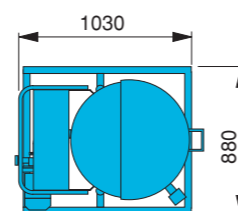
A pressure pump can be used for heavier liquid mixtures such as tempura. The BatterMixer is installed in front of the applicator's operating side and can be fitted with a level control system, which automatically adds the new mixture. Therefore any possibility of the applicator emptying during production is avoided. Because the agitator operates intermittently at a preset speed the mixture cannot separate.

## Technical data

- Several versions are available
- Depending on the products to be processed, the viscosity and pickup per product, the BatterMixer can process two to five charges per hour
- The entire BatterMixer is made out of stainless steel and synthetic food grade components. The frame is fitted with four plastic swivelling wheels with a double brake.

## The key features of the BatterMixer...

- Homogeneous mixture
- Applicator re-charged automatically
- Hygienic batter processing
- Labor saving
- Easy to operate and clean.



# AutoMixer

In developing the AutoMixer, in-house technology was used as a starting point for mixing and viscosity control. This resulted in a mixer that prepares a liquid batter mixture with a preset viscosity and subsequently pumps it to the BatterApplicator automatically. The quality of mixtures prepared by the AutoMixer is consistent and reproducible.

## How it works

Making a batter seems simpler than it is. However, when it concerns reproducible high-quality products, there is more involved than simply mixing the correct quantities of water and flour for a given length of time. Issues such as supply speeds, mixing times, temperature, viscosity measurement, viscosity correction and transferring and preparing a new batch on time all become increasingly important. This is all handled in the AutoMixer's recipe-driven operating method.

A recipe consists of settings that can differ per product. Controlling and choosing a recipe is done on the touch screen.

A Programmable Logic Control (PLC) unit activates the machine. This PLC is equipped with process cycles for automatically filling, mixing, measuring and regulating the viscosity, for buffering, emptying and cleaning.

After the recipe is chosen, the mixing tank is filled with water automatically and the flour-dispensing unit dispenses the correct amount of flour. After filling, the AutoMixer starts mixing and a pressure sensor measures the viscosity. The measured value is displayed on the screen, after which, if necessary, the process is fine tuned automatically.

Because the agitator operates intermittently at a preset speed, the mixture cannot separate. The AutoMixer is installed in front of the BatterApplicator's operating side and can be fitted with a level control system, which automatically adds the new batter mixture. This avoids any possibility of the BatterApplicator emptying during production.

In contrast to existing systems, batter is not constantly circulated. Once it has been in contact with product in the BatterApplicator, batter is not returned to the AutoMixer. Contamination is thereby avoided.



# BatterApplicator

## Technical data

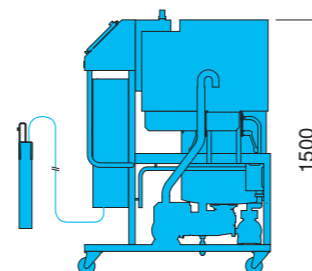
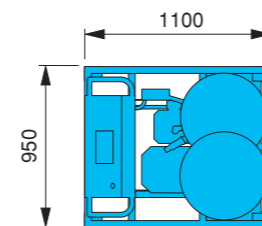
- The AutoMixer can be supplied in a 75-litre version
- Capacity depends on the products to be processed, viscosity and pick-up per product. It is possible to process 100 litres of batter per hour with a maximum viscosity of 500 cP
- The entire AutoMixer is made out of stainless steel and synthetic food grade components. The frame is fitted with four plastic swivelling wheels with a double brake.

## The key features of the AutoMixer...

- Guaranteed constant quality
- Excellent reproducibility
- BatterApplicator re-charged automatically
- User friendly
- Labor saving
- Optimum ergonomics for operators.



Cold unit is an optional extra.



Cutlets, fillets, chops, burgers, croquettes, chow mein dishes, fish or chicken products; the range of products that can be wetted with batter by the BatterApplicator is very broad. The BatterApplicator is part of Townsend Further Processing's product range and has recently been enhanced with a number of technological and technical improvements.



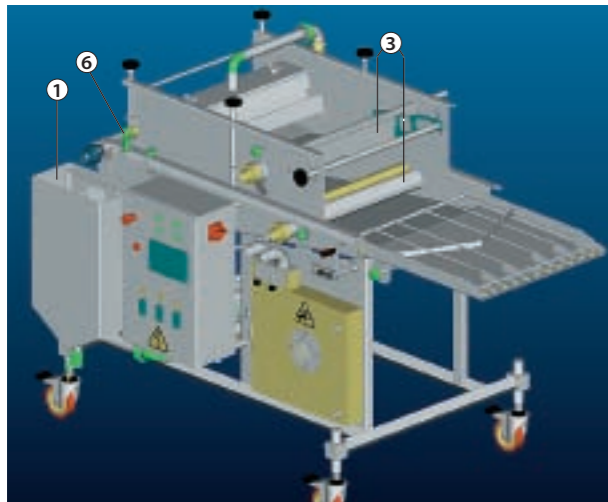
Batter curtains apply batter to the top and sides of the product.

## How it works

A conveyor belt passes the products through the BatterApplicator. The bottom of the product goes through a bath filled with batter. At the same time a maximum of four curtains wet the product on the top and the sides. A blower unit and two blow pipes blow excess liquid off the product. A scraper removes any liquid off the bottom of the wire-mesh belt so that contamination of the next machine is reduced. Excess batter blown off or removed flows into the reservoir through a filter. Batter is pumped around continuously.

## Updated

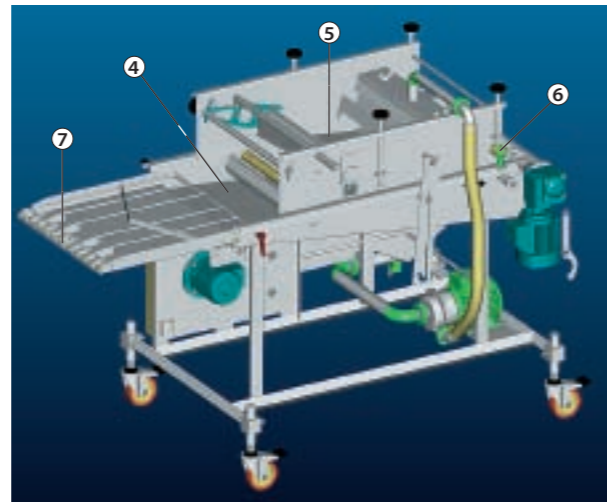
The updated BatterApplicator has been geared to the market's most important requirements. In practice, this means that the BatterApplicator can process many batters, is easy to set and clean, that the risk of damage to the equipment has been significantly reduced and also that maintenance has been made much easier.



Improvements to the BatterApplicator.

Compared to previous versions, the following changes have been made to the BatterApplicator.

- 1 The viscosity range of batters to be processed is 50 to 1000 cP
- 2 Optimum curtain control due to the frequency-controlled pump
- 3 The blowing speed is equal over the full breadth of the conveyor belt, which enables pickup to be controlled and to be constant
- 4 Frequency-controlled conveyor belt, easy to set from 1 to 20 m/min
- 5 Base plate which can be adjusted so that products are prevented from floating or being positioned incorrectly
- 6 Simple to clean due to improved access and a reduction in the number of removable parts
- 7 Lengthened product discharge, which simplifies connection to subsequent machines. The adjustable discharge prevents products with membranes being drawn back into the machine.

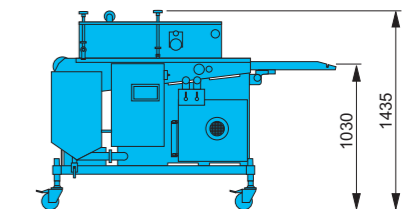
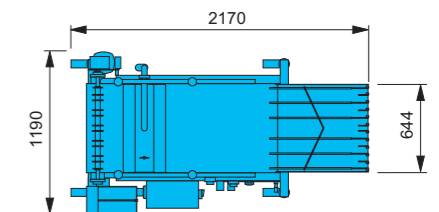


### Technical data

- The BatterApplicator can process natural as well as formed products. Capacity depends on the chosen belt width and the requirements of the product to be processed
- It has been built so that the parts can be easily removed. This means that the BatterApplicator can be cleaned easily, efficiently and quickly
- The entire BatterApplicator is made out of stainless steel and synthetic food grade materials. The machine is on wheels and is height-adjustable. It can therefore easily be installed in a production line
- The width of the conveyor belt is 630 mm
- A cold unit and a heat exchanger can be purchased as optional extras.

### The key features of the BatterApplicator...

- Suited to a wide range of products and batters
- Excellent pickup and temperature control
- High yield
- Easy to operate
- Easy to clean properly.





# TempuraApplicator

The TempuraApplicator can handle a wide range of products. Nuggets, fillets, fingers, prawns: the TempuraApplicator coats the products with tempura without any problems. Just like the BatterApplicator, the TempuraApplicator too has recently undergone a number of technical and technological improvements.

## How it works

A conveyor belt transports products down through the batter; the top belt ensures that the products remain covered. After they have been dipped, products are removed from the liquid. Before the coated products leave the TempuraApplicator, a blower unit blows the excess batter off the products. A scraper ensures that the bottom belt is cleaned so that contamination of the next machine is reduced. Optional star rollers can be fitted to the discharge belt to prevent sticky products from being drawn back into the machine.

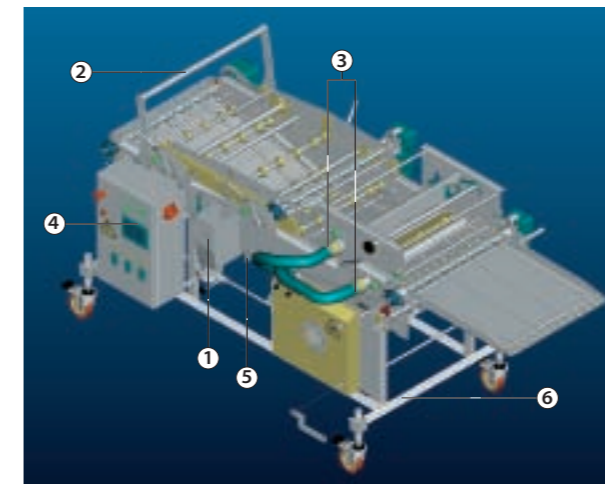


## Updated

The most significant features of the TempuraApplicator to have been improved correspond to those of the BatterApplicator: easy to adjust and clean, reduction of the risk of damage to equipment because there are no longer any loose parts and significantly simplified maintenance.



TempuraApplicator in the cleaning setting: optimum accessibility.



Improvements to the TempuraApplicator.

Compared to previous versions, the following changes have been made to the TempuraApplicator.

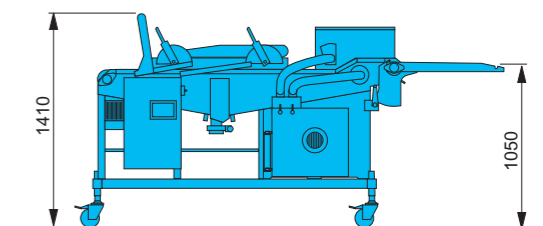
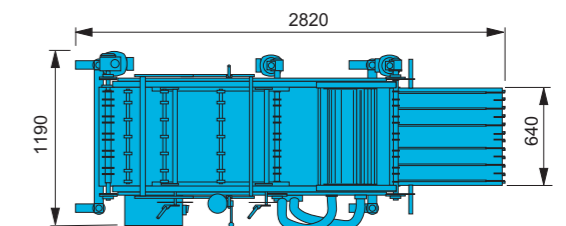
- 1 The viscosity range of the batters to be processed is 50 to 4000 cP
- 2 It is easy for one person to put the TempuraApplicator into the cleaning setting
- 3 Blowing speed is relatively constant over the full breadth, which enables pickup to be controlled and constant
- 4 Frequency-controlled conveyor belts, easy to set from 1 to 20 m/min
- 5 A double bottom with the possibility of connecting a cooling unit
- 6 Simple and efficient to clean due to improved access and a reduction in number of parts to be removed.

## Technical data

- Capacity depends on the product type, viscosity and the belt speed
- The width of the conveyor belt is 630 mm
- The entire TempuraApplicator is made out of stainless steel and non-corrodible materials. The machine is on wheels and is height-adjustable and can therefore easily be installed in a production line.

## The key features of the TempuraApplicator...

- Suited to coating a large variety of products
- Excellent pickup and temperature control
- High yield
- Easy to operate
- Easy to clean properly.



## Contact details

### Townsend Further Processing

Design, manufacture, worldwide sales and service of further processing systems for portioning, marinating, coating, heat treatment and sausage-making for poultry, red meat, and fish.

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